

WATER QUALITY REPORT

FOR BLOOMINGTON, MN • 2006 TEST RESULTS



JUNE 2007

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ENSURING YOUR SAFETY BLOOMINGTON’S WATER SURPASSED ALL REQUIREMENTS

AT THE CITY OF BLOOMINGTON, OUR goal is to provide you with high-quality, safe, reliable drinking water that meets every federal and state water quality requirement. This report contains information about the sources, treatment process and history of our water system. The page four summary provides the results of water quality monitoring on Bloomington’s water sources from January 1 to December 31, 2006, by the Minnesota Department of Health, the City of Minneapolis and our own laboratories. We also answer the most common questions that people have about our water. This report is meant to advance consumers’ understanding of drinking water and heighten awareness of the need to protect precious water resources.

GET INVOLVED

YOUR WATER MEETS ALL FEDERAL, STATE and local guidelines. Public Works welcomes your input on water quality issues. For information, contact Water Quality Supervisor Jon Eaton at 952-563-4501.

If you have questions about your water, or we can be of service in any way, please give us a call or visit the City’s Web site at www.ci.bloomington.mn.us, keywords: Water plant.

Water Plant (24 hours a day)
952-563-4905
TTY (8 a.m. to 4:30 p.m., M-F)
952-563-8740

Este informe contiene información muy importante. Si necesita una traducción del mismo, sírvase llamar al 952-563-4957 V/TTY.

Bản báo cáo này có các thông tin rất quan trọng. Nếu quý vị cần bản dịch tiếng Việt, xin gọi số 952-563-4957 V/TTY.

Warbixintaan waxaa ku jira macluumaad aad muhiim u ah. Haddii aad u baahan tahay in lagu turjumo, fadlan la xiriir 952-563-4957 V/TTY.

CLEAN, SAFE WATER HIGH-TECH EQUIPMENT TESTS WATER QUICKLY

THE TRI-CITY/WILLIAM LLOYD ANALYTICAL Laboratory has provided water quality testing since 1967. The lab runs more than 158,000 trace-element tests per year on the water supplies for the cities of Bloomington, Edina and St. Louis Park. That’s more than 430 tests per day. Our goal is to provide testing services of exceptional quality and value, using up-to-date technologies.

While keeping equipment maintenance and repair costs to a minimum, old equipment is systematically replaced. During the winter of 2006, the laboratory embarked on a new adventure in trace-element analysis. The aged Atomic Absorption Spectrometer (AAS) was replaced with a state-of-the-art Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES).

The older-style AAS analyzed one element in a sample every 8 - 10 minutes.

Analyzing 20 samples for one element could take more than five hours to process. With the new high-speed, multi-element ICP-OES, 75 different elements in a single sample are processed in less than five minutes – a huge time savings.

Unlike most atomic absorption instruments, ICP-OES is capable of detecting up to 40 elements per minute, with a calibration time of only 10 - 35 seconds. The high-speed and low-detection limits of this instrument make it an excellent platform for water analysis.

The high-to-low range of the elements the ICP-OES can see is also much wider than the range of the AAS. The wider range saves time by avoiding dilutions and additional personnel



time to re-analyze samples. Over the last 25 years, ICP-OES technology has become indispensable for chemical elemental analysis. The lab’s new spectrometer is an excellent tool to identify any deviations in the City’s drinking water quality. With the use of efficient and accurate state-of-the-art technology, the City will continue to maintain the low-detection limits set by the U.S. Environmental Protection Agency.

DO YOUR PART TO HELP CONSERVE WATER FOLLOW THESE TIPS FOR EFFICIENT LAWN CARE

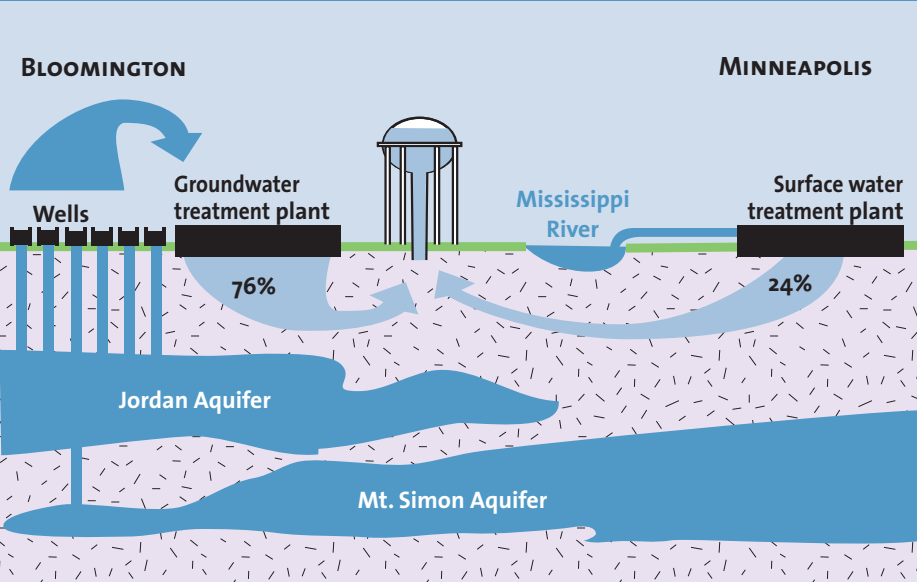
WITH RECENT DROUGHT CONDITIONS AND increased demands on limited water supplies, conserving water is important. Many communities have instituted “Time-of-Day” or “Odd-Even” restrictions to conserve water. Consumer use data indicates these restrictions do not save water but merely move the peak demand period to a different time. For this reason, Bloomington does not have a watering restriction, but still educates consumers about using water wisely.

Nationally, lawn care accounts for 32 percent of outdoor water use. Efficient use of water can prevent waste, lessen the effects of drought and minimize runoff and leaching. While each site will have different considerations such as soil type, grass species, weather and sun exposure, these practices can be used for an efficient watering approach.

- 1 Reduce lawn size** – Less lawn substantially reduces the amount of water used for landscape maintenance.
- 2 Use native and drought-resistant grass species** – Mixtures of native grass species get the most effective and long-lasting seasonal coverage. Fine fescues have low water needs and high drought tolerance.
- 3 Water only when necessary** – Bloomington usually has enough rainfall to supply the water needs of most lawns. Two simple ways to tell if your lawn needs water are its color and flexibility. If you walk on your lawn and leave a footprint or the color of your lawn turns blue/green, the grass needs water. Mature lawns that go brown in the summer are in a natural period of dormancy. They will green up when wetter, cooler weather returns.
- 4 Water your lawn in the early morning** – Watering early in the morning will allow your grass to dry quickly and lose less water from evaporation. Limiting moist conditions reduces disease susceptibility.
- 5 Water slowly and deeply** – Watering slowly allows the water to be absorbed. You should water four to six inches deep, which equals about one inch of water on the surface. If using a sprinkler, place a rain gauge or shallow can on either side of the sprinkler and measure the water that it collects. This approach will help determine the amount of water you are using.
- 6 Water sloped areas with care** – On sloped areas, do not apply water

- 7 Maintain sprinkler systems and irrigation equipment** – Make sure your sprinkler system is appropriate for your landscape and watering needs. Install matched precipitation sprinkler heads which apply water according to an area’s needs. Make sure that the irrigation system has a rain shutoff device. Locate irrigation heads at least eight inches from paved areas and watch where water is going. You should not be watering the sidewalk, trees or the neighbor’s yard.
 - 8 Check your equipment** – Fix leaky hoses and faucets. Install a shutoff timer on hoses to prevent water loss from unattended hoses. A hose without a nozzle can spout 10 gallons or more per minute. Do not leave faucets or hoses on when they are not in use.
- Reducing the water used for lawn and landscape maintenance is essential to protect water supplies for current and future uses and for protecting natural resources.

WHERE DOES YOUR TAP WATER COME FROM?



COMPLETED IN 2002, THE REMODELED Sam H. Hobbs Water Treatment Plant can produce up to 14 million gallons of treated, drinkable water per day.

**BLOOMINGTON WELLS
76 PERCENT IN 2006**

In 2006, our water plant drew raw (untreated) groundwater from six deep wells. The wells extend downward between 376 and 963 feet into the Jordan, Prairie Du Chien-Jordan, Franconia-Mount Simon and Jordan-St. Lawrence Aquifers, porous underground rock formations that hold vast amounts of water. The midwest has a very rich water supply.

The City drew 3.6 billion gallons of water, 76 percent of Bloomington's needs, from these deep groundwater wells in 2006.

**MISSISSIPPI RIVER
24 PERCENT IN 2006**

To meet demand in excess of our production capabilities, we purchased treated water from the city of Minneapolis. Treated water from our plant is blended with similarly treated water from Minneapolis and sent throughout our City's distribution system. All of our consumers receive a blend of water from these two sources.

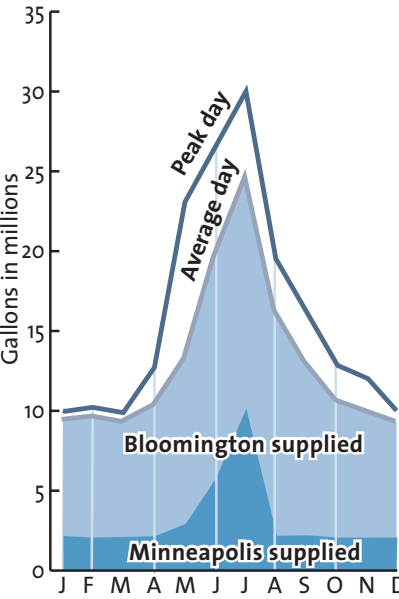
Minneapolis' surface water treatment plant takes its raw water from the Mississippi River. In 2006, the City purchased 1.18 billion gallons of water from Minneapolis, which supplied the remaining 24 percent of our water needs.

HOW MUCH IS USED?

IN 2006, RESIDENTS AND BUSINESSES in Bloomington used 4.8 billion gallons of water on average, up from 4.5 billion in 2005. This worked out to about 13.1 million gallons of water per day last year.

The chart below shows the peak day and average day of water use for each month during 2006, as well as the average amount of water treated at our plant and purchased from Minneapolis. To get a more accurate picture of the actual amounts of water consumed, peak day data was adjusted to account for fluctuations in our reservoir levels.

2006 PEAK DAY AND AVERAGE DAY WATER USE PER MONTH



THE TREATMENT PROCESS

1 Treatment begins when lime, in the form of slakened quicklime (CaO), is mixed with raw water in one of our two contact solids basins. Each basin holds about half a million gallons of water.

2 The lime-and-water mixture causes the pH in the basins to rise, and calcium and magnesium (the main components of hardness) to form insoluble particles called flocs. As these floc particles grow in size, they settle to the bottom of the contact solids basins. The solids are removed, dewatered and used as a USDA-approved source of lime by Minnesota farmers to stabilize the pH in farm fields.

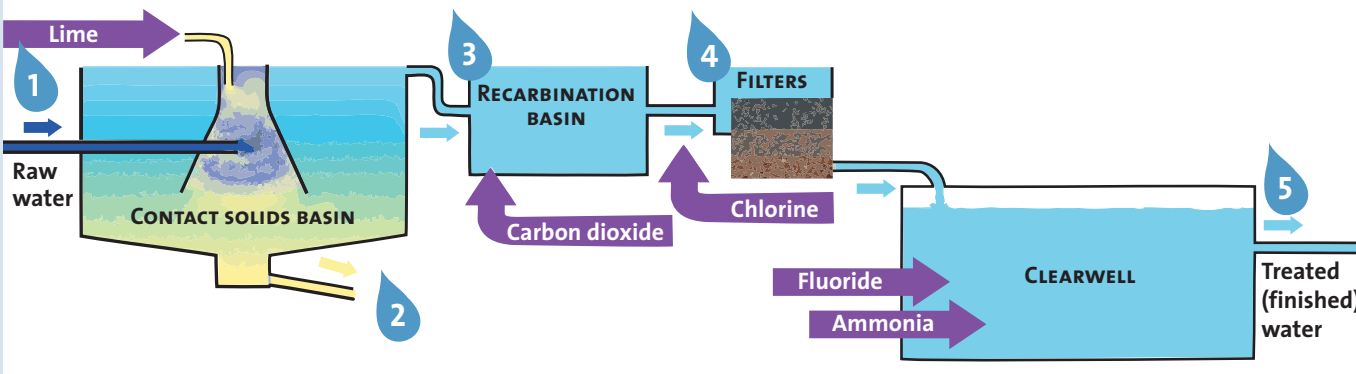
3 The water enters a recarbonation basin where it is adjusted to the proper pH by adding carbon dioxide. A precise amount of chlorine is added to discourage bacterial growth as the water travels through our distribution system.

4 The water is filtered to remove any remaining particles. And finally, it enters an underground reservoir called a clearwell where small quantities of fluoride and ammonia are added. Fluoride promotes strong teeth and bones; ammonia works with the chlorine as a disinfectant. Now softened and disinfected, the water is ready for use by Bloomington residents and businesses.

HOW SOFT IS OUR WATER?

Bloomington is one of the few water utilities in Minnesota that supplies softened water to its consumers. Untreated groundwater enters the water plant with a hardness of about 19 grains (320 parts per million). Our treatment process reduces the water's hardness to about 5.2 grains (90 parts per million).

5 The finished water from our treatment plant is pumped into the distribution system, where it is mixed with treated water purchased from the City of Minneapolis.



**A CAREER IN THE
WATER INDUSTRY IS
WAITING FOR YOU!**

ST. CLOUD TECHNICAL COLLEGE'S Water Environment Technologies (WETT) program provides you with the skills you need to land a great job in this rapidly growing industry.

- There are many benefits to this program:
- Hands-on learning.
 - 12-month program.
 - Metro and St. Cloud locations.
 - 100 percent placement rates.

CALL ST. CLOUD TECHNICAL COLLEGE TODAY AT 1-800-222-1009, EXT. 5952

FAQs: FREQUENTLY ASKED QUESTIONS ABOUT BLOOMINGTON’S WATER



SHOULD I GET A WATER FILTRATION SYSTEM FOR MY HOME?

BECAUSE BLOOMINGTON’S WATER surpasses all federal and state standards, home filtration systems are not necessary. However, if you choose to purchase a filtration system for aesthetic or medical reasons, keep the following in mind:

- Find out if the filter you are considering is capable of removing substances that concern you.
- Look for filters that have been certified by NSF International (an independent testing group) and UL (Underwriters Laboratory).
- Follow the manufacturer’s maintenance instructions carefully.

When not properly maintained and serviced, filtration systems can harbor disease-causing bacteria that are not otherwise in the City’s water supply.



DO I NEED A HOME WATER SOFTENING SYSTEM?

OUR LIME-SOFTENING PROCESS removes most of the hardness in Bloomington’s water, reducing it from 19 grains per gallon (raw water) to about 5.2 grains per gallon (finished water). The water is also treated to be noncorrosive. This helps prevent unsafe levels of lead and copper from leaching into the water from home plumbing. Home softening systems can further reduce water hardness, usually by adding a small amount of sodium.

OTHER QUESTIONS?

Feel free to contact us at any time with your questions about drinking water. Our water plant’s telephone number is 952-563-4905.

WHY IS THE WATER FROM MY FAUCET CLOUDY?

OCCASIONALLY WE RECEIVE CALLS reporting water that appears cloudy or milky. Usually indicating the presence of either oxygen or calcium, cloudy water is perfectly safe to drink.

Oxygen in water: Sometimes water fresh from the tap appears cloudy. Within a minute or two, the cloudiness rises toward the top of a glass and before long the whole glass is crystal clear. This is caused by excess oxygen escaping from the water.

Changes in water temperature and pressure can cause the oxygen dissolved in it to reach a “supersaturated” state where more oxygen is in the water than it can hold. When the water passes through a faucet, the disturbance is enough to release the excess oxygen out of the water, forming microscopic bubbles. The bubbles are so tiny that it takes them a long time to rise through the water. No harm will come from using oxygenated water and you need not take any corrective action if you experience it.

Calcium in water: The chemistry of water is surprisingly complex and many factors influence how it behaves. We treat Bloomington’s water so that it is slightly prone to deposit a trace of calcium sediment as it travels through our distribution system. This helps to keep our water from becoming corrosive and reduces the likelihood that it might attack our water mains or leach lead or copper from our customers’ plumbing and fixtures. *See below.* Usually, this calcium sediment remains at the bottom of the water mains, unnoticed by our water users.

However, the calcium can be stirred up when a large volume of water is



drawn through a water main in a short time. Events that can increase water velocity include firefighting, main breaks, hydrant maintenance and water or street-cleaning trucks that fill their tanks at a hydrant. If you happen to turn on your cold water right after such an event, you may draw some of the stirred-up water into your pipes.

When calcium causes cloudiness, it is usually noticed in cold water. Let a glassful of the cloudy water sit for about 30 minutes and a white or grayish substance may settle to the bottom of the glass. The substance is calcium, a product of our water treatment process. Though it may be visually unappealing, such water is perfectly safe to drink or use for cooking.

To clean calcium sediment from your system, we recommend that you wait an hour or two to allow the water in the main to settle. Then, open a large-bore faucet, such as a tub faucet, and let the cold water run for about 20 minutes. This will draw clean water through your system and should remove any remaining calcium from your pipes. Please call us if you have any concerns about cloudy water or if your water remains cloudy after taking these steps.

WHAT CAN I DO TO MINIMIZE EXPOSURE TO LEAD?

THE PRESENCE OF LEAD RANKS AMONG THE most common health concerns people have about drinking water. Recent studies suggest that levels of lead once thought to be safe can in fact pose dangers, especially to unborn babies and children. Fortunately, over years of regular and rigorous monitoring, the City of Bloomington’s water has never been found to be a significant source of lead.

In fact, lead pipes, solder, brass faucets and other plumbing in your home pose the greatest threat of adding dangerous levels of lead to your water. A few simple practices can minimize

your exposure to lead from your home. First, always use cold water for your cooking and drinking. If your plumbing contains lead, hot water will draw more lead out of it. Second, allow your cold water to run until it is very cold – a minute or more. This flushes out any water that may have been in your pipes long enough to pick up higher concentrations of lead. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791. If you are concerned about your home’s lead levels, our laboratory can test your water for a fee.

Minnesota Law requires small amounts of fluoride be added to water supplies to help prevent tooth decay. Child cavity rates have been reduced by 20 - 40 percent where fluoridation has been implemented.

American Water Works Association



IMPORTANT INFORMATION

FOR PEOPLE WITH COMPROMISED IMMUNE SYSTEMS

SOME PEOPLE MAY BE MORE VULNERABLE to contaminants in drinking water than the general population. Immuno-compromised people, such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants, can be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers. Environmental Protection Agency (EPA) and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline: 1-800-426-4791.

RADON IN WATER

RADON IS A RADIOACTIVE GAS THAT occurs naturally in some groundwater. It poses a stomach cancer risk when ingested and a lung cancer risk when released from water into the air during showering, bathing and washing dishes or clothes.

The EPA’s Maximum Contaminant Level for radon is 300 pCi/L. In tests of Bloomington’s water in 2006, our results are well below this limit.

Some states have adopted an Indoor Air Program that requires citizens to reduce radon in indoor air. Because radon in indoor air poses a much greater health risk than radon in drinking water, a more lenient “Alternate Maximum Contaminant Level” of 4000 pCi/L generally applies to water in those states. Minnesota is currently in the process of adopting such an Indoor Air Program.

For more information on radon, contact the Environmental Health Division at 952-563-8934 or go to the City’s Web site at www.ci.bloomington.mn.us, keyword: Radon.



Water Purity

Information Provided by the U. S. Environmental Protection Agency

Drinking water sources in the United States, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over or through the ground, it dissolves naturally occurring minerals and, sometimes, radioactive material. Water also picks up substances resulting from animal or human activity.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) regulates the amounts of certain contaminants in water provided by public systems. The Food and Drug Administration regulates contaminants in bottled water to provide the same public health protection.

Drinking water, including bottled water, may be expected to contain reasonably small amounts of some contaminants. Their presence does not necessarily indicate that the water poses a health risk. Information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Contaminants that may be present in source (“raw”) water

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, can occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants can occur naturally or be the result of oil and gas production and mining activities.

2006 Water Quality Results

The Minnesota Department of Health (MDH) and City staff regularly test samples of Bloomington’s water for many contaminants. **No contaminants were detected at levels that exceeded the state or federal standards.** Some substances were detected in trace amounts below the maximum allowed in drinking water. Only those substances that were detected appear on the table; many results are not listed because the substances were not found at any time in 2006 by tests designed to detect them. Some substances are tested less than once per year; in such

cases, the most recent results and the test dates are reported.

Some contaminants do not have Maximum Contaminant Levels (MCL) established. These “unregulated contaminants” are assessed using federal standards known as health risk limits to determine if they pose a threat. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL has been exceeded; the water system must inform its customers and take corrective actions.

The table’s upper portion summarizes test results performed on Bloomington water. The lower portion shows results for Minneapolis water because we blend Minneapolis treated surface water with our water plant’s treated groundwater. Bloomington’s water is a blend of water from these two sources.

To obtain a source water assessment on your drinking water, call 651-201-4670 or 1-800-818-9318 (press 5) during normal business hours. Source water assessments are also available online at <http://mdh-agua.health.state.mn.us/swa/>.

Detected substance	Amount detected	Allowed (MCL)	Ideal (MCLG)	Typical source of substance	Type	Meets standards?
CITY OF BLOOMINGTON						
Arsenic (ppb) (09/05/2006)	1.7	10	0	Erosion of natural deposits	R	Yes
Chlorine (ppm)	Avg. = 1.9 (1.2 to 2.4)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Combined Radium (pCi/L) (03/21/2003)	0.21	5.4	0	Erosion of natural deposits	NR	Yes
Copper (ppm) (06/07/2005)	90% = 0.16 (0 of 30 sites over AL)	AL = 1.3	NA	Corrosion of household plumbing systems; erosion of natural deposits	NR	Yes
Fluoride (ppm)	Avg. = 1.2 (1.1 to 1.3)	4	4	Added for strong teeth/bones; erosion of natural deposits	R	Yes
Lead (ppb) (06/07/2005)	90% = 12.0 (2 of 30 sites over AL)	AL = 15	NA	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Nitrate/Nitrite (as Nitrogen) (ppm)	0.1	10.5	10.5	Fertilizer runoff; leaching of septic or sewer; erosion of natural deposits	NR	Yes
Sodium (ppm) (09/05/2006)	4.9	NR	NR	Erosion of natural deposits	NR	Yes
Sulfate (ppm) (09/05/2006)	14.3	NR	NR	Erosion of natural deposits	NR	Yes
Trihalomethanes (TTHM) (ppb)	Avg. = 0.9 (0.5 to 1.3)	80	0	Chlorination by-product	R	Yes
CITY OF MINNEAPOLIS						
Alpha Emitters (pCi/L) (04/17/2002)	0.4	15	0	Erosion of natural deposits	R	Yes
Chlorine (ppm)	Avg. = 2.8 (1.7 to 3)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Copper (ppm)	0.12 (0 of 50 sites over AL)	AL = 1.3	NA	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Fluoride (ppm)	Avg. = 1.1 (0.9 to 1.2)	4	4	Added for strong teeth/bones; erosion of natural deposits	R	Yes
Haloacetic Acids (HAA5) (ppb)	Avg. = 27.4 (7.2 to 36)	60	0	Chlorination by-product	R	Yes
Lead (ppb)	5 (3 of 50 sites over AL)	AL = 15	NA	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Nitrate (as Nitrogen) (ppm)	0.84	10	10	Fertilizer runoff; leaching of septic or sewer; erosion of natural deposits	NR	Yes
Sodium (ppm)	15	NR	NR	Erosion of natural deposits	NR	Yes
Sulfate (ppm)	31	NR	NR	Erosion of natural deposits	NR	Yes
Trihalomethanes (TTHM) (ppb)	Avg. 34.5 (8.4 to 35)	80	0	Chlorination by-product	R	Yes
Turbidity (NTU)	Max: 0.28 (limit met 100%)	TT	NA	Soil runoff	R	Yes
Total Coliform Bacteria (cfu)	1%	5%	0	Bacteria naturally present in the environment	R	Yes

Key

MCL	Maximum Contamination Level. The highest level allowed in drinking water. MCLs are set as close to MCLG as feasible using the best available treatment technology.	NA	Not Applicable.	NTU	Nephelometric Turbidity Unit. A measure of water clarity.
		AL	Action Level. An amount that, if exceeded, triggers a specific response that a water system must follow.	pCi/L	Picocuries Per Liter. Measures radioactivity.
MCLG	Maximum Contamination Level Goal. Below this level there is no known or expected health risk. MCLGs allow for a margin of safety.	TT	Treatment Technique. A required process intended to keep the level of a contaminant at an acceptably low level.	MRDL	Maximum Residual Disinfectant Level.
		ppb	Parts Per Billion. Units of a substance, in pure form, found in every billion units of water.	MRDLG	Maximum Residual Disinfectant Level Goal.
NR	Not Regulated , but monitoring is required by the State of Minnesota. No limits have been set for this compound.			90%	This is the value obtained after disregarding the 10 percent of the samples taken that had the highest levels.
R	Regulated.	ppm	Parts Per Million. Units of a substance, in pure form, found in every million units of water.	cfu	Colony Forming Unit.